Course Title: IST 150: PC Tech/Troubleshooting and Repair

Course Leader: Karen Weil-Yates

Expected Learning Outcomes for Course

- *Students will be able to assemble, setup, and upgrade personal computer systems.*
- *Students will be able to diagnose, isolate faulty components.*
- *Students will demonstrate customer service, troubleshooting and preventative maintenance skills*
- *Students will be able to prepare for certification*

Assessment
(How do students demonstrate achievement of these outcomes?)

Students are required to
- complete hands-on labs and answer questions that promote Internet Research of diagnostic solutions, setups, and upgrades; customer service and critical thinking.
- take two hands-on exams: one, where they identify parts and their characteristics; two, where they diagnose and repair a faulty system
- take exams using Blackboard (to simulate certification-type testing) and take the Transcender Essentials Exam Prep for A+. Transcender is currently the leading prep exam for certification.
- Students also participate in a computer repair clinic where they can model their diagnostic and customer service skills.

Validation
(What methods are used to validate your assessment?)

All instructors who teach this course must be A+ certified. The textbook is an approved CompTIA A+ text and is published by an industry leader in the information technology field.

This course's assessments were validated at the Spring Advisory Meeting on April 24th, 2009. Course content is mapped to A+ 2011 Certification Exam objectives (additional objectives are also included). One reviewer (Tim Byers, Teacher at FCCTC), took copies of the identification exam and copies of several hands-on activities for use in his program.

The repair clinic was presented to my cohorts at the 2006 CompTIA breakaway during informal discussions where we were to share ideas and pedagogy. I was asked to share how our clinic worked and outline procedures. Many of the participants asked if they could take my repair clinic idea and incorporate it into their programs.

Results

(What does the data show?)
- I now have an 80% pass rate (=>60%); previously, some classes were having a 20% pass rate on the first hands-on exam
- There is an 88% pass rate on the 2nd hands-on exam; no scores were below 72%

- Fall 2010: 27 students took the **Transcender Essentials** Self-test at the beginning and the end of the course. My goal was that they show a 5 point increase:
  - 19 showed an increase in their score (increases ranged from 2 points to 16 points; only one had an increase of less than the goal of 5 points)
  - 1 showed no change
  - 5 showed a decrease in their score
  - 2 were undetermined (took the test, but score sheet not submitted)
- Summer 2010: 5 students completed the course
  - 1 showed an increase
  - 0 showed no change
  - 5 undetermined
- Spring 2010: 29 students completing the course
  - 22 showed an increase in their score
  - 1 showed no change
  - 4 showed a decrease in their score
- BlackBoard Exams: (averages include those students who took at least one exam, but may have failed/"walked away" from the course)

	Exam 1	Exam 2	Exam 3	Exam 4
SP10 Day	73%	70%	73%	N/A
SP10 Eve	80%	70%	77%	N/A
SU10	71%	73%	53%	N/A
FA10 Day	71%	72%	76%	N/A
FA10 Eve	76%	82%	85%	81%

Follow-up
(How have you used the data to improve student learning?)

The Hands-On Activities have been re-written this year (2010-2011) to reflect changes in hardware and A+ exam objectives. Each semester I review where students may misread /misinterpret HOA questions and re-word for clarity.

The first Hands-On Exam was quite extensive and the pass rate was quite low (where I was giving a "retake" exam)—generally no later than week 7 of the semester. I have done the following to help improve scores:
- created a note sheet for the chapter on RAM; students fill in the chart with details about each type of RAM as they follow along with a PowerPoint and lecture with demos passed around. I learned the note sheet idea from an AFACCT presentation
- I reserve one 3-hour class for review of parts and two 1-hour reviews of parts

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- The exam is now given in the 8-11th week range

The BlackBoard exams are reviewed for clarity/ambiguous answers and relevancy each semester. I try to add new critical thinking questions to the exam bank.

Budget Justification

(What resources are necessary to improve student learning?) 6 to 8-seat site license for A+ Transcender